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AMSAT NEWS SERVICE
ANS-019

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://amsat.org publishes news of Amateur Radio in space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat dot org.

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SB SAT @ AMSAT $ANS-019.01
ANS-019 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 019.01
>From AMSAT HQ KENSINGTON, MD.
January 19, 2020
To All RADIO AMATEURS
BID: $ANS-019.01

GOLF-TEE Reaches Major Milestone

A group of GOLF-TEE (Greater Orbit Larger Footprint - Technology Evaluation Environment) satellite prototype boards transmitted telemetry for the first time on Tuesday, January 14, 2020. The boards are laid out on a bench as a "flat-sat" with interconnecting wires, bench power supplies, and a dummy load on the transmitter. The interconnected boards include:

- An early RT-IHU (Radiation Tolerant Internal Housekeeping Unit (i.e. computer) prototype,
- A CIU (Control Interface Unit) prototype, and
- A set of spare boards from HuskySat-1 that act as prototypes for the LIHU (Legacy IHU) and legacy VHF/UHF RF components.

Now that the development team has reached this point, it has RF to use as a basis for developing a GOLF-TEE decoder for FoxTelem, the ground telemetry receiver software.

Thousands of hours of work by many AMSAT volunteers have gone into the hardware and software that got GOLF-TEE this far, with much work yet to be done before flight units are ready.

GOLF-TEE is designed as a Low Earth Orbit (LEO) testbed for technologies necessary for a successful CubeSat mission to a wide variety of orbits, including MEO(Medium Earth Orbit) and HEO (High Earth Orbit).

To help support the GOLF program, please consider volunteering or donating today.

https://www.amsat.org/volunteer-for-amsat/

https://www.amsat.org/donations/amsat-golf-program-donations/

[ANS thanks Burns Fisher, WB1FJ, AMSAT Flight Software, and the entire GOLF team for the above information]

ARISS Contact Opportunity Call for Proposals February 1, 2020 to March 31, 2020

The Amateur Radio on the International Space Station (ARISS) Program is seeking formal and informal education institutions and organizations, individually or working together, to host an Amateur Radio contact with a crew member on board the ISS. ARISS is happy to announce a proposal window which will open February 1, 2020 for contacts that would be held between January 2021 and June 2021. Crew scheduling and ISS orbits will determine the exact contact dates. To maximize these radio contact opportunities, ARISS is looking for organizations that will draw large numbers of participants and integrate the contact into a well-developed education plan.

The proposal window for contacts between January 2021. and June 2021 will open on February 1, 2020 and close on March 31. 2020. Proposal information and documents can be found at www.ariss.org. Two ARISS Introductory Webinar sessions will be held on two different date and times. The first is at January 23 at 2100 ET and the second is at January 27 at 1800 ET. The same material will be covered during both sessions, so choose the session that best fits your schedule. The Eventbrite link to sign up is https://ariss-proposal-webinar-spring-2020.eventbrite.com

The Opportunity

Crew members aboard the International Space Station will participate in scheduled Amateur Radio contacts. These radio contacts are approximately 10 minutes in length and allow students to interact with the astronauts through a question-and-answer session.

An ARISS contact is a voice-only communication opportunity via Amateur Radio between astronauts and cosmonauts aboard the space station and classrooms and communities. ARISS contacts afford education audiences the opportunity to learn firsthand from astronauts what it is like to live and work in space and to learn about space research conducted on the ISS. Students also will have an opportunity to learn about satellite communication, wireless technology, and radio science. Because of the nature of human

spaceflight and the complexity of scheduling activities aboard the ISS, organizations must demonstrate flexibility to accommodate changes in dates and times of the radio contact.

Amateur Radio organizations around the world with the support of NASA and space agencies in Russia, Canada, Japan and Europe present educational organizations with this opportunity. The ham radio organizations' volunteer efforts provide the equipment and operational support to enable communication between crew on the ISS and students around the world using Amateur Radio.

For More Information

For proposal information and more details such as expectations, proposal guidelines and proposal form, and dates and times of Information Webinars, go to www.ariss.org.

Please direct any questions to ariss.us.education(a)gmail.com .

[ANS thanks ARISS for the above information.]

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CubeSat platform as an atmospheric entry vehicle. Spacecraft descending towards a planet with an atmosphere experience very harsh environment including extreme temperatures (several thousand degrees).

Information about Qarman's 437.350 MHz 9600 bps GMSK AX.25 beacon has now been released by the team.

Download the Qarman Beacon Definition QARMAN_BCNdef_v1.1 at https://ukamsat.files.wordpress.com/2020/01/qarman_bcndef_v1.1.pdf

Download the Beacon Decoder spreadsheet QARMAN_BCNdecoder at https://ukamsat.files.wordpress.com/2020/01/qarman_bcndecoder.xlsx

Reports can be sent to operations(a)qarman.eu

[ANS thanks AMSAT-UK for the above information.]

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Saturday, Feb 1 2020 at 1:30 PM in La Jolla, CA (part of San Diego).
Please see this link for details:
https://tinyurl.com/ANS-019-Kantor-Memorial

"Please bring any photos, mementos and (above all) stories and anecdotes about Brian to share. Brian wasn't exactly a highly formal person who stood on ceremony, so we'll keep this informal. If you have a story to tell, it's up to you whether you stand up and relate it to the whole group or just a few others at a time. There will be plenty of time for both.

"Everyone who knew Brian is welcome. His friendships spanned at least three distinct social circles, and I know he'd be very happy to see everyone meet and enjoy everyone else's company. Even if he'd be a little embarrassed that we were doing it in his honor.

"Free snacks and refreshments will be provided, so please RSVP through the evite link so we can tell the hotel how much to make available. If you have special dietary needs, please say so; the hotel has a menu we can choose from.

"Please forward this email to anyone you think might be interested. Hope to see you on the 1st."

[ANS thanks Phil Karn, KA9Q for the above information.]

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Members of Radio Club Puebla DX will be active as 6F3A from
Isla Perez, Mexico, between February 11-17. The operators mentioned
are Patricia/XE1SPM (Team Leader), Ismael/XE1AY, Rey/XE1SRD and
Ricardo/XE1SY. Activity will be on 80/40/20/17/15/12/10/6 meters, and
include the ARRL DX CW Contest (February 15-16). QSL via XE1SY.
Ismael, XE1AY, reports that he doing CW and the satellites, and will
also TX from EL50 and XE1AY/mm from EL51.

Big Bend National Park (DL88) March 16-17, 2020
Ron AD0DX, Doug N6UA, and Josh W3ARD will operate from Big Bend
National Park to put grid DL88 on the air. Details will be added
here, as they come available, but you are more than welcome to keep
an eye on their individual Twitter feeds: https://twitter.com/ad0dx,
https://twitter.com/dtabor, and https://twitter.com/W3ARDstroke5

[ANS thanks Robert Bankston, KE4AL for the above information.]

ARISS News

(Editor's Note: See school contact opportunity story above.)

+ Upcoming Contacts

Morita Junior High School, Fukui, Japan, direct via 8J9MO
The ISS callsign is presently scheduled to be NA1SS
The scheduled astronaut is Luca Parmitano KF5KDP
Contact is go for: Wed 2020-01-22 08:00:46 UTC 27 deg

Ontario Science Centre, Toronto, Canada, telebridge via IK1SLD
The ISS callsign is presently scheduled to be OR4ISS
The scheduled astronaut is Luca Parmitano KF5KDP
Contact is go for: Wed 2020-01-22 17:21:36 UTC 32 deg

[ANS thanks Charlie Sufana, AJ9N for the above information.]

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The Wireless Institute of Australia Annual Conference will be held in Hobart, Tasmania May 8-10 2020 and registrations are open.

On the Saturday afternoon a wide range of presentations are organized to showcase the conference theme which is the "Antarctic Gateway".

Following lunch there will be two presentation streams which can be categorized as the "Antarctic" stream and the "Radio" stream. Complete information can be viewed at: https://www.wia.org.au/newsevents/news/2020/20200111-3/index.php

[ANS thanks the Wireless Institute of Australia for the above information.]

+ AMSAT Argentina Celebrates LO-19 30th Anniversary

On Feb-22-1990 LUSAT/LO-19 was launched along with AO-16, DO-17, WO-18, UO-14 & UO-15. It was the first Argentina Satellite, and one of first to use PACSAT protocol. LUSAT is still calling home with its carrier at +/-437.125.

Members of AMSAT Argentina (LU7AA) celebrate the 30th anniversary of the LUSAT (LO-19) satellite between Jan. 18 and 26 on HF on SSB, FT8, CW. An award is available as well. QSL via LU7AA (d), eQSL. Find complete information at: http://lu4aao.org/lu7aa/cert_30_aniv_lusat_2020.htm and http://amsat.org.ar/certlusat30.htm

[ANS thanks the DARC DX Newsletter and AMSAT-LU for the above information.]

+ AMSAT-SA Announces A New Date Fre Their Space Symposium

The annual AMSAT SA Space symposium date has changed to Saturday, 11 July 2020. While the call for papers is ongoing till the end of February, AMSAT SA is pleased to announce that Burns Fisher, WB1FJ, of AMSAT NA will delivery two papers at the symposium: Fox-in-a-box: Fox telemetry reception using an inexpensive Raspberry Pi and a J-pole antenna including a discussion on the optimal positioning for a J-pole antenna for satellite reception and an overview of what is in orbit currently and expected in the near future and their features. Prospective authors are invited to propose other papers by submitting a brief synopsis to admin(a)amsatsa.org.za before 28 February 2020.

+ Cardiff Microwave Roundtable Saturday, March 7, 2020

The Cardiff University ARS will host a meeting of the UK Microwave Group on Saturday March 7, 2020 at our campus in Cardiff. This one day event is a mix of talks, measurements, and socializing about activities in the GHz frequencies.
GNU Radio Workshop

On the following day, Sunday March 8, there will be a hands on Introduction to GNU Radio and Software Defined Radio. More info coming soon, please send an email to officers(a)cardiffars.org.uk if you are interested.

[ANS thanks the UK Microwave Group for the above information.]

+ Lockheed Martin Launches First Smart Satellite Enabling Space
  Mesh Networking

Recently, Lockheed Martin launched the Pony Express 1 mission as a hosted payload on Tyvak-0129, a next-generation Tyvak 6U spacecraft. Pony Express 1, an example of rapid prototyping, was developed, built and integrated in nine months. Some of the key technologies being flight-tested include:

- Software validates advanced adaptive mesh communications between satellites, shared processing capabilities, and can take advantage, of sensors aboard other smart satellites,
- A software-defined radio that allows for high-bandwidth hosting of multiple RF applications, store-and-forward RF collection, data compression, digital signal processing and waveform transmission,
- 3D-printed wideband antenna housing.

Read the full story at
http://www.spaceref.com/news/viewpr.html?pid=55121

[ANS thanks Spaceref.com for the above information.]

In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of six post-secondary years in this status.

Contact Martha at the AMSAT office for additional student membership information.

73,
This week's ANS Editor,
Frank Karnauskas, N1UW
n1uw at amsat dot org

Sent via AMSAT-BB(a)amsat.org. AMSAT-NA makes this open forum available to all interested persons worldwide without requiring membership. Opinions expressed are solely those of the author and do not reflect the official views of AMSAT-NA.

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